DOCUMENT RESUME

ED 190 054 IR 008 525

AUTHOR Durkin, Kay; Dolan, Donna R.
TITLE Reference Database Use: A New Application of Online Searching.
PUB DATE 80
NOTE 19p.; Paper presented at the National Online Information Meeting (New York, NY, March 25-27, 1980).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Data Bases; Indexes; *Information Retrieval; Information Seeking; *Library Services; Library Surveys; *Online Systems; *Reference Services; Search Strategies; *Use Studies

ABSTRACT

The use of online searching by reference librarians to provide actual answers and not just bibliographies or current awareness printouts has the potential to save time and money for the reference department. The quick reference service can actually promote rather than compete with the library's online search service for in depth subject searching. Among the most common applications of the quick reference service are verification, collection development, and answering short questions about persons, organizations, and new fields of interest. This type of searching is greatly facilitated by the use of database indexes such as BRS/CROSS which allow the searcher to determine which BRS files contain information on the search topic. Survey results from BRS users indicate that many libraries presently use online searching to answer quick reference questions and that an even greater number plan to incorporate this new service into their library systems in the future. (Author/RAA)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED190054

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

REFERENCE DATABASE USE:
A NEW APPLICATION OF ONLINE SEARCHING

by

Kay Durkin

and

Donna R. Dolan

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Kay Durkin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

IR008525

Reference Database Use: A New Application of Online Searching

Kay Durkin and Donna R. Dolan

Although the online revolution began in the technical services area of libraries and information centers, it climaxed in the reference department. Online searching often replaced manual literature searching and the time-consuming manipulation of abstracts and indexes. The products of online searching are traditionally retrospective bibliographies, or monthly current awareness printouts. However, reference librarians are becoming more aware of the richness of databases as sources for answers to reference questions. In this new application of online searching, information professionals are using the power and response time of the computer to provide actual answers and not just bibliographies which point the way to answers.

This paper is based on an informal telephone survey conducted by Bibliographic Retrieval Services (BRS) Inc. in preparation for their 1979 seminar on "Reference Use of the Online Database Service."

There are three approaches to using databases to provide answers for reference questions:

Referral. Through the use of Martha Williams' Computer Readable Data Bases: A Directory and Data Sourcebook,[1] librarians can refer users to database producers who provide a search service. Also through local library groups, librarians are

often aware of libraries or agencies in their area which offer computer searching. The main drawback in the referral method is the turnaround time which ranges from 3-30 days.

Appointment. The reference librarian can direct the user to their own library's online searching department. The turnaround time is significantly improved; same day processing or processing within the week is often possible. At the State University of New York at Albany, quick reference questions are referred to the Searching Department from the reference desk. SUNY Albany has even designed a form for the efficient referral of searches (Fig. 1).

On-the-spot searching. The ideal setting for the reference use of databases is a terminal at the reference desk. With multiple passwords, this option does not interfere with the in-depth online searching service. It provides the most effective advertisement of the service, and involves personnel outside the Online Searching Department in database use. The on-the-spot answer to the reference question is the optimum setting for the reference use of databases.

HOW REFERENCE USE DIFFERS FROM SUBJECT SEARCHING.

Traditional use of databases results in an in-depth subject search which usually involves a significant amount of time for profile design and yields a lengthy bibliography of relevant documents.

Factors which differentiate between traditional use and reference use of databases are time and the number of citations desired. Most librarians regard "reference use" of the computer as a search involving about five minutes or less of connect time, and resulting in ten or less citations which are printed in abbreviated format online.

Gertrude Foreman defines reference use as locating factual or verification information.[2] Foreman also offers guidelines for using databases in the following reference situations:

1. When a term, concept, or citation cannot be found easily in a printed tool.

2. To verify a difficult or incomplete citation, especially when it requires searching several sources or a number of years.

3. To search a file not available at the library in printed form.

4. To find a citation which will provide appropriate index terms for a manual search by the patron.

5. To look for a very recent citation.

6. To find several relevant citations with which a patron can "get started."

7. When nothing seems to be yielding an answer.

INTEGRATING THE REFERENCE APPLICATION INTO THE LIBRARY.

For successful use of databases in reference, the online reference service should not compete with the online searching service. The competitive situation is most easily avoided by deciding, in advance, the type of questions that will be answered at the reference desk--simple searches, citation verifying, etc.--and then referring long or difficult questions to the online search service. Although both services are usually supported by one search service budget, exact records of funds spent for each can be kept through the use of multiple passwords or account codes.

The successful use of databases for reference depends heavily on the education of the staff to be involved. The staff members who do the reference searching require the basic tenets of training, but not much education in the vagaries of the various databases. Components of a training program for reference librarians would include:

- reference applications of searching
- standard terminology
- Boolean logic
- command languages
- scope of the databases available
- printing formats
- instruction in document retrieval from the citations.

It is not necessary to train reference librarians in controlled vocabularies because the immediacy of the reference

situation will usually necessitate free-text searching. However, although reference librarians will access the databases through free-text searching, they will need to provide the user with a list of possible descriptors for a manual search.

Most libraries integrate reference database use into their services without publicity. Perhaps they fear that the service might be abused if it were widely advertised. However, reference database use is often the very publicity that an online search service needs. A quick, accurate answer to a reference question using databases helps illustrate the in-depth subject searches available. Traditional subject searching tends to increase as reference use of databases is introduced in a library.

In our survey, we encountered no libraries who permitted end-users to perform reference searches.

FINANCING REFERENCE DATABASE USE.

Most reference database use in libraries is financed by the Online Searching Department. James Sweetland showed that a satisfactory reference database service could be instituted for about $1,000/year.[3] The service also provided access to many tools that the reference department did not own. Therefore, it would also seem logical that the Reference budget might support such a service in lieu of purchasing expensive and little-used reference tools. Our survey revealed

that libraries were not charging the end-user for reference database use although most did charge for in-depth subject searching. If reference questions are referred to another searching service, the end-user usually pays any charges.

QUICK REFERENCE QUESTIONS THAT DATABASES CAN ANSWER.

The libraries in our survey provided us with examples of the types of reference questions that databases can answer:

Verification. Even if a user has only partial information about a book, journal article, or report, a database search can locate the complete citation. A report number, Dewey or LC number or publisher can often be the starting point to verify an incomplete citation on a database.

> Sample: Barry Commoner has a new book on politics and energy. Can you find out who published it and how much it costs?
>
> BRS - BOOKSINFO
> 1_: commoner-b and energy and politics
> RESULT 2
>
> AU COMMONER-B
> TI POLITICS OF ENERGY
> PB RANK P0245P
> YR 79
> PR $0004.95
> NO LC: 79007325 ISBN: 039473808X
> ST STATUS: NYP

The PB paragraph lists the publisher and the PR paragraph lists the price.

> Sample: Are there any reports from NOAA with the contract number NOAA-6-35201?
>
> BRS - NTIS
> BRS-SEARCH MODE-ENTER QUERY
> 1_: noaa635201
> RESULT 1

From the limited information of a report number, the appropriate NTIS database which lists research funded by the government turns up the answer.

Collection Development. Quick reference searches can significantly reduce the workload of a collection development department in several ways:

1. Locating books in certain price ranges.

Sample: The library wants to add to its collection in the area of solar energy. To stay within its budget, the books should cost less than $15.

```
BRS - BOOKSINFO
BRS - SEARCHMODE-ENTER QUERY
1 :  solar with energy
RESULT  9
2 :  ..limit/1 PR<001500
RESULT  9
```

All nine books on solar energy cost less than $15.00.

2. Locating books and journals in certain areas.

This is particularly appropriate on the BRS Social Science Citation Index which categorizes all documents.

Sample: A theological library is compiling ready reference material on the theological aspects of death.

```
BRS-SSCI
BRS-SEAPCH MODE-ENTRY QUERY
1 :  yi.cc.                (YI is the concept code for
RESULT  811                 religious studies)
2 :  1 and (death dying)
RESULT  9

1
TI   RELIGIOUS ORIENTATION AND DEATH FEARS

SO   REVIEW OF RELIGIOUS RESEARCH 1977 V0019 N1
     P0073-0076
```

```
2
TI   BEYOND SELF-ACTUALIZATION-COMMENTS ON THE LIFE
     AND DEATH OF STEPHEN MARTYR

SO   JOURNAL OF PSYCHOLOGY AND THEOLOGY 1977 V0005
     N4 P0292-0299

3
TI   DEATH AND ETERNAL LIFE

SO   JOURNAL OF RELIGION 1978 V0058 N2 P0217-0219.
```

These materials will be enough to start the ready reference collection and perhaps provide a listing of sources to be reviewed to keep the collection up-to-date.

3. Locating particular types of publications.

Sample: Are there any Braille cookbooks on the market?

```
BRS-NIMIS
BRS-SEARCH MODE-ENTER QUERY
1_:   cookbook$1 and braille
RESULT  40
```

4. Locating series information which is often difficult to find.

Sample: Is there a career education series for the educable mentally handicapped?

```
BRS-NIMI
BRS-SEARCH MODE-ENTER QUERY
1_:   educable with mentally with handicapped
      with career with education
RESULT  409
2_:   1 and hospital$1
RESULT  18

AU   JOHN HUGHES
TI   JANET THE HOSPITAL HELPER
PB   HAYWARD, CALIFORNIA; JANUS BOOK PUBLISHERS; C1976
SR   PEOPLE WORKING TODAY
```

Information about people. Certain databases are particularly useful for biographical information. The New York Times with its informative abstracts is one of the best for the type of biographical information requested every day at the reference desk. MEDLARS is also useful because it includes obituaries of physicians.

Sample: Has there been an obituary published for Dr. E. A. Brown who died recently?

```
BRS-MESH
BRS-SEARCH MODE-ENTER QUERY
1_:   brown adj ea and current-biog-obit
RESULT  1

TI   ETHAN ALLEN BROWN 1906-1979

SO   ANN ALLERGY.43.2.P134,AUG 79.
```

Addresses of researchers are available from databases which publish the researchers' affiliation. For instance, a professor not in the National Faculty Directory might be in the ERIC database or in a database in his or her field.

Sample: A user needs the names and addresses of some researchers currently working on the growth hormone?

```
BRS-MESH
BRS-SEARCH MODE-ENTER QUERY
1_:   somatotropin.mj. and human
RESULT  911
2_:   ..limit/1 lg=en
RESULT 629
3_:   ..limit/2 up>7907          (Limits to information
RESULT  000089                    after July 1979)

AU   NASH H.
IN   ADELAIDE CHILDREN'S HOSPITAL, SOUTH AUSTRIALIA

AU   MARTIN L.G.
IN   DEPT OF MEDICINE, UNIV OF MARYLAND SCHOOL OF
     MEDICINE, BALTIMORE
```

The publishing output or reputation of a researcher can be very important when he or she is being evaluated for grants, awards, honors or tenure. An appropriate subject database or interdisciplinary database is selected. C.W. Chuang, a physicist, is checked on INSPEC for his publishing record.

```
1_:   chuang adj c adj w
RESULT  12
```

The number of times that an author is cited is often considered evidence of an author's reputation.

Sample: How many times were Pauline Atherton's works cited?

```
1 :   atherton-p$.cr.            (CR is the cited
RESULT  23                        references paragraph)
```

Directory type information about institutions or organizations is also available from databases which can give locations of organizations.

Sample: Are there any burn centers in Calfornia?

```
BRS-MESH
BRS-SEARCH MODE-ENTER QUERY
1 :   burn$1 with (center$1 clinic$1 unit$1).in.
RESULT  92
2 :   1 and california.in.
RESULT  7

IN   BURN CENTER, BROTHMAN MEMORIAL HOSPITAL, CULVER
     CITY, CALIFORNIA.

IN   REGIONAL BURN AND TRAUMA CENTERS, UNIVERSITY
     OF CALIFORNIA MEDICAL CENTER, SAN DIEGO
```

Databases can be used to identify organizations according to the number of grants received, patent output, number and type of degrees conferred, or company earnings.

Sample: How many grants has the State University of New York at Albany received exceeding $10,000?

The Smithsonian Science Information Exchange, a database which lists federal and private grants awarded in the past two years, is searched for this question.

```
1_:   state adj university adj new adj york adj
      albany.in.
RESULT  153
2_:   ..limit/1 fd gt 0010000
RESULT  00126
```

Sample: How many patents was the Xerox Corp. awarded in 1979?

```
BRS-CHEM
BRS-SEARCH MODE-ENTER QUERY
1_:   xerox.pa.                    (PA is the patent
RESULT  382                         assignee paragraph)
2_:   ..limit/1 yr=79
RESULT  17
```

Sample: How many doctoral degrees were awarded from Cornell University in organic chemistry in 1978?

```
BRS-DISSERTATION ABSTRACTS
1_:   0058.in.                     (code for Cornell Univ.)
RESULT  13904
2_:   chemistry with organic.de.
RESULT  14637
3_:   1 and 2
RESULT  242
4_:   ..limit/5 yr=78
RESULT  000010
```

Sample: What are the sales and earnings figures for the Eli Lilly Co.?

```
BRS-PHARMACEUTICAL NEWS INDEX
1 :   lilly with earnings.ti.
RESULT  2

TI   LILLY SIX MONTH SALES & EARNINGS ANALYSIS
```

Identify genus-species. It is usually difficult to find genus-species names except in the most specialized biological dictionaries. The BIOSIS database is helpful for questions like these:

Sample: What is the genus-species name of the Canada goose?

```
BRS-BIOSIS
1 :   (canada or canadian) with (geese or goose)
RESULT  69

TI   MIGRATORY HABITS OF THE CANADIAN GOOSE.

DE   BRANTA-CANADENSIS  AGE BREEDING MANAGEMENT
```

Definitions of new fields or concepts. New concepts or fields are seldom defined in established dictionaries. It is the experts in a field who use and define new terminology and these references can be uncovered by a quick reference search.

Sample: What causes the "Chinese Restaurant syndrome"?

```
BRS-BIOSIS
1 :   chinese adj restaurant adj syndrome
RESULT  7
```

Sample: What is Lerche's Relativistic Theory?

```
BRS-INSPEC
1 :   lerche$ with relativistic with theory
RESULT  1
```

DATABASE INDEXES: QUICK REFERENCE FOR THE ONLINE SEARCHER.

For quick reference questions involving persons, organizations or definitions, it is often difficult to determine the subject field and therefore which database to search. The solution is the new database indexes offered by BRS and SDC. Using these indexes, the librarian or searcher can enter the desired term and have either all databases or related groups of databases searched to determine where to go for the answer. BRS' CROSS database and SDC's Database Index (DBI) are pre-search tools that searchers can check instead of following mere intuition when selecting appropriate databases.

An example of how BRS' CROSS works for a typical question follows:

> Where will I find information on gasohol or other alternative fuels?
>
> 1_: gasohol or (alternative$1 with fuel$1)
>
> | | | | | | |
> |---|---|---|---|---|---|
> | BIOL | 0 | INFO | 48 | POLL | 6 |
> | BOOK | 0 | INSP | 92 | PSYC | 0 |
> | CAIN | 23 | MDOC | 2 | SSCI | 3 |
> | CHEM | 62 | MESH | 3 | | |
> | DISS | 3 | MGMT | 10 | | |
> | DRUG | 0 | NIMI | 1 | | |
> | ECER | 0 | NTIS | 342 | | |
> | ERIC | 17 | PNIA | 0 | | |

CROSS lists the number of postings from each BRS database for the terms entered. As this example illustrates, Boolean logic can be used with CROSS, making it the quickest method of verification.

Sample: I know Carl Sagan wrote an article about life on Mars. Can you find it for me?

For this question, only the physical sciences databases are searched:

```
1_:   (sagan-c$ or sagan adj (c or carl) ) and
      life and mars

BIOL  0
BOOK  0
CHEM  0
DISS  0
EIST  0
INSP  4
NTIS  3
POLL  0
```

From these results we would go to INSPEC to find the complete citation.

CROSS and the DBI are the newest tools in database searching and since they eliminate the need to know the intricacies of database coverage and selection policies, they are ideal for quick reference use.

SUMMARY

The newest application of online searching is quick reference use of databases which, when successfully integrated into the library system, has the potential to save time and money for the reference department. The quick reference service can actually promote, rather than compete with, the library's online search service for in-depth subject searching. Among the most common applications of the quick reference service are verification, collection development and answering short questions about persons, organizations and new fields

of interest. This type of online searching is greatly facilitated by the use of database indexes such as BRS/CROSS which allows the searcher to determine which BRS files contain information on the search topic.

The survey results from BRS users indicate that many libraries presently use online searching to answer quick reference questions and that an even greater number plan to incorporate this new service into their library systems in the future.

QUICK REFERENCE QUESTIONS
FOR INFORMATION RETRIEVAL

QUESTION:

Date and Time Rec'd_____

Date and Time Needed_____

Librarian_____

☐ GP ☐ REF

☐ ILL ☐ OTHER(specify)

PLACE YOUR QUESTION IN THE TOP BASKET LABELLED "QUICK REF REQUESTS" NEAR THE IR TERMINAL. PICK UP RESULTS IN THE BOTTOM BASKET.

DD:79

FIGURE 1

State University of New York at Albany's
Quick Reference Form

REFERENCES

1. Williams, Martha E. Computer-Readable Databases: A Directory and Data Sourcebook, 2d ed. White Plains: Knowledge Industry Publications, 1979.

2. Foreman, Gertrude. "Reference Database Use," BRS Brief Paper Series #1, BRS Bulletin, January 1979.

3. Sweetland, James. "Using Online Systems in Reference Work," Online 3(3):10-19 (July 1979).

4. Reference Use of the Online Database Service. A Special Seminar Presented by Bibliographic Retrieval Services, Inc. October 18, 1979. Minneapolis, Minnesota.